

Claims

[c1] 1. A document surface micro-adjust mechanism for an optical scanner, wherein the optical scanner includes an outer casing, a transparent document platform and an optical lens, the transparent document platform located in the upper section of the outer casing has a document surface, and the optical lens is installed inside the outer casing, the document surface micro-adjust mechanism at least comprising:

a carrier chassis located in the upper section of the outer casing, wherein the carrier chassis encloses the transparent document platform and has a through-hole;

a latching structure attached to the casing, wherein the latching structure has a locking hole that corresponds in position to the through hole in the carrier chassis;

a locking element passing through the through-hole and engaging with the locking hole in the latching structure, wherein depth of the locking element inside the locking hole corresponds to the optical path distance from the document surface of the transparent document platform to the optical lens; and an elastic element between the carrier chassis and the latching structure, wherein one end of the elastic element pushes against the carrier chassis while the other end of the elastic element pushes against the latching structure.

[c2] 2. The micro-adjust mechanism of claim 1, wherein the carrier chassis further includes a first side terminal and a second side terminal such that the first side terminal hinges on an upper wall of the outer casing and the second side terminal has a through hole.

[c3] 3. The micro-adjust mechanism of claim 1, wherein the latching structure and the outer casing are fabricated together as an integrative unit.

[c4] 4. The micro-adjust mechanism of claim 1, wherein the elastic element is formed directly on the latching structure to provide a spring force that pushes against the carrier chassis.

[c5] 5. The micro-adjust mechanism of claim 1, wherein the elastic element is formed directly on the carrier chassis to provide a spring force that pushes

against the latching structure.

- [c6] 6. The micro-adjust mechanism of claim 1, wherein the elastic element includes a spring.
- [c7] 7. The micro-adjust mechanism of claim 1, wherein the elastic element includes a coiled spring.
- [c8] 8. The micro-adjust mechanism of claim 1, wherein the locking element includes a fastening screw.
- [c9] 9. The micro-adjust mechanism of claim 1, wherein the locking element passes through the through-hole and the elastic element before engaging with the locking hole on the latching structure.